Customer Objective:	Maintain Best In Class Availability and Performance
Initiative:	Complete Contract for Turbine L.P. Blade Replacement

History: Due to observed steam turbine bucket (blade) leading edge erosion and the potential for bucket tip failure, we recommend replacing the low pressure turbine Last Stage Buckets (LSB's) on both Units. We estimate that this will cost a little over $6 million per unit for materials and labor and will require a six-week outage for each unit to complete, instead of our typical four week outage. This corresponds well with the generator rewind work scheduled for the same outages which will also require six weeks of outage time to complete.

The original manufacturer of the turbine, General Electric, recommends replacing these buckets on both Units and has issued a technical information letter addressing problems with these buckets. These buckets are a 30-inch self shielded type and are made entirely with hardened Jethete base material without stellite erosion shields. GE started installing this type of bucket in the early 1980's to reduce manufacturing costs. Unfortunately the hardening process on this material reduces ductility and increases the tendency for crack propagation.

Status: The Contract to supply and replace the LSB's on both units has been written and will be sent out for bidding in the very near future. We have delayed the purchase from the original schedule because of moving the Unit 2 outage to the fall of 2010 instead of the spring. Also, the price of LSB's seems to be improving as the economy continues to stall. We will be soliciting bids from:

GE Energy
Mechanical Dynamics and Analysis, LTD
TurboCare, Inc.
Alstom Power
Toshiba International Corporation

Significant Items for July 2009

Contract for Low Pressure Turbine Last Stage Blading
The contract specifications for LP Turbine Last Stage Blading have been completed and sent to purchasing for bidding. These blades need to be replaced on both units due to concerns over cracks that might propagate from the bucket tip erosion that has developed over the years of service.

Cyber Security Project
Construction activities have started on the physical security system necessary to comply with the NERC Cyber Security Standards. The fence for the western perimeter has been awarded to Western Fence, Salt Lake City. They are scheduled to start work the first week of August and be complete by the end of that month. Wagner Electric and AlphaCorp started work on their project to install the site security system. AlphaCorp had some problems with the initial network layout and asked for some changes to make the layout more in line with their typical project. We agreed to go with their recommended configuration but, stipulated some coincident electronic security requirements.

Significant Items for August 2010

Generator Circuit Breaker Bid Evaluation - Received the bid from ABB for the replacement generator circuit breakers that is to be installed on Unit 1 in 2011 and Unit 2 in 2012. We are currently in the process of reviewing the bid to determine if the meets the technical requirements of the contract. We have already found some problems and have requested bid price adjustments from ABB.

QC Inspection of LP Turbine Last Stage Blading - Sent an engineer to Japan to audit the QC records and witness fabrication of the low pressure turbine last stage blades scheduled for installation during the major outages. The first five sets have already been shipped and the last set was in fabrication while he was at the shop. The audit of the QC records showed that they have an extensive QC program and that he was being followed.

Significant Items for October 2010

Unit 2 Generator Stator Rewind - Started the rewind of the Unit 2 generator which is part of the schedule outage work scope. The initial tear down and disassembly of the stator has been completed and is progressing according to schedule. The core has been tested for damage by both ELCID and core loop testing and no significant damage was found that required repair. Reassembly of the stator with the new bars will begin next week.

Unit 2 LP Turbine Blading Replacement - Started the project to replace the last stage blading on all three low pressure turbine sections. The removal of the blades has been completed and went better than expected. The retaining pins all came out easily with just a pneumatic hammer. They have already started the installation of the new blades. This project is ahead of schedule.

Thaw Shed Transformer Testing - Replaced high side bushings for Thaw Shed Transformer #2 based on previous Doble testing. Repeated the Doble testing of the transformer after the bushings were installed and everything was satisfactory.

Cyber Security Standards - Completed updating the IPSC Cyber Security Standards to match Revision 3 of the NERC Standards.

Contingency Arming Replacement - Completed the drawings for the Contingency Arming project. Started work on demolition of the old equipment and installation of the new cabinet and wiring. A short forced outage on Unit 1 gave us an opportunity to install necessary program changes into the DCS for this project.

Significant Items October, 2009

Security System - Finished wiring the Data Gathering Panels (DGP's) for the Security Command Center, Converter Cooling Bldg, Converter Valve Hall, Converter Relay House, and Converter AC Filter Bldg. The (DGP's) gather access control information and control the door locks locally. The console and server racks in the Security Command Center have been assembled and wall monitors have been mounted. The Security Command Center is complete and ready for commissioning of the equipment. The security system is still on schedule to be fully operational by the end of this calendar year as required by the NERC Cyber Security mandates.

Last Stage Bucket Replacement - Completed the bid evaluation for replacing the last stage buckets on the Unit 1 and Unit 2 LP Turbines. The contract will be awarded to Toshiba as they were the low bidder. The work scope includes supplying and installing the new blades and removal of the old blades from the GE rotors. This work will be completed during the Unit 2 outage in the fall of 2010 and the Unit 1 outage in the spring of 2011. We are replacing these LP turbine last stage buckets due to concerns over tip leading edge erosion that could progress to the point where cracking and tip failure are probable. GE recommended replacing these buckets following their 2007 and 2008 outage inspections.

Thaw Shed Transformer Doble Tests - Performed Doble tests on the Thaw Shed #1 and Thaw Shed #2 Transformers. All test results for the Thaw Shed #1 Transformer were within acceptable limits. The test results for the Thaw Shed #2 Transformer indicate deterioration occurring in the H3 bushing. Replacement bushings are being ordered.